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Case Report

A Rare Cause of Inguinal Herniation: Bladder Herniation

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Abstract

Herniation of the bladder into the inguinal canal is a rare condition. It is mostly asymptomatic but symptoms such as dysuria, sudden and severe urge to urinate, nocturia and haematuria may also be observed. Early diagnosis of inguinal bladder hernia is important to minimize potential complications and those that may arise during treatment. In male patients over the age of fifty with unilateral inguinal swelling, possible bladder herniation should be considered, and when necessary, computed tomography and other radiological imaging methods should be used in addition to ultrasonography. We aimed to present our case of bladder herniation accompanying inguinal hernia, supported by the literature.

Keywords: Inguinal hernia, bladder hernia, ultrasonography, computed tomography

INTRODUCTION

The incidence of inguinal hernia ranges between 3% and 8%, but it is more common among men. Herniation of the bladder into the inguinal canal is rare and this rate is reported to be between 1% and 4% in the literature (1). It has also been reported that the bladder herniates into the femoral canal, abdominal wall, perineum, and obturator canal (2). It is mostly seen in men over 50 years of age and on the right side. It is seen that various factors play a role in its pathophysiology. Possible reasons for facilitating herniation include weakness of the bladder detrusor muscle and abdominal wall muscles, hernia sac that causes the bladder to shrink, obesity, and previous inguinal surgery. Most patients are asymptomatic. They may rarely show nonspecific urinary symptoms (3). It is mostly detected incidentally during inguinal hernia surgeries (4). Early diagnosis is important due to the possibility of complications. In this study, we aimed to present a case who presented to the emergency department with complaints of abdominal pain and swelling in the groin and was diagnosed with bladder hernia based on imaging findings in light of the literature.

CASE REPORT

A 51-year-old male patient was admitted to the emergency department with complaints of abdominal pain, right groin pain, and swelling in the groin for the last 1 week. Laboratory findings of the patient were normal. Physical examination showed no signs other than swelling in the right groin. It was observed that the patient was obese. He also had a history of Chronic Obstructive Pulmonary Disease (COPD). Abdominal ultrasonography and superficial groin ultrasonography were performed in the emergency radiology department. While no pathology was detected in the abdominal ultrasonography, superficial ultrasonography revealed a right inguinal hernia and loculated fluid in the inguinal region, and therefore, upper abdominal and pelvic computed tomography was performed. Computed tomography revealed a right inguinal hernia and accompanying bladder hernia (Figures 1-3). Surgical intervention was recommended to the patient whose hernia was reduced and pain decreased, but the patient did not accept it.

CITATION

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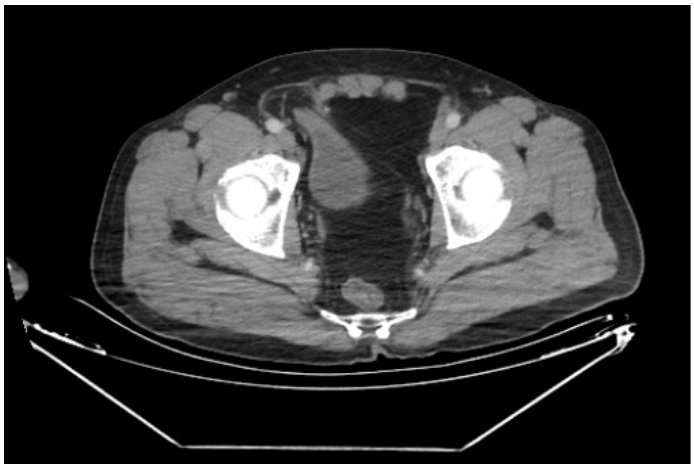

Figure 1. Right inguinal bladder herniation on axial computed tomography images

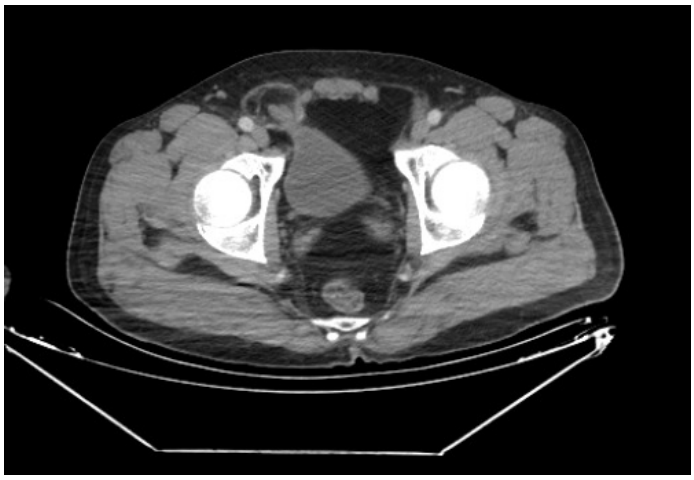

Figure 2. Right inguinal bladder herniation on axial computed tomography images

Figure 3: Right inguinal bladder herniation on sagittal computed tomography images

DISCUSSION

Bladder hernias are rarely seen. It was first described and accepted as an acquired pathology by Levine in 1951 (5). It is generally more common in men over the age of fifty and on the right side (6). Our case was a fifty-one-year-old male patient and his hernia was on the right side.

Bladder hernias are evaluated in 3 groups: paraperitoneal, intraperitoneal, and extraperitoneal hernias according to their relationship with the peritoneum. Paraperitoneal hernias are the most common. The herniated part of the bladder is located outside the inguinal hernia sac and extends along its medial edge. While the intraperitoneal hernia is totally surrounded by the peritoneum, extraperitoneal bladder hernias do not have any relationship with the peritoneum (1). Our case had an extraperitoneal hernia.

Various systemic and local factors play a role in the etiology as factors that facilitate the development of hernia. Advanced age, obesity, history of inguinal surgery, impaired bladder tonus, and weakness of bladder detrusor muscles are some of the predisposing factors. Apart from these factors, situations where intra-abdominal pressure increases such as COPD, atrophy of the abdominal wall muscles, increased perivesical adipose tissue density, and increased pressure associated with prostate hypertrophy while urinating may cause herniation in advanced-age patients. It has been suggested that all these factors may lead to bladder diverticulum formation and bladder herniation (7,8). Our case was a patient with a high body mass index (BMI) and a diagnosis of COPD.

While minimal bladder herniation usually does not show symptoms, symptoms such as decreased swelling in the groin after micturition, impaired urination, and increased urination by pressing on the swelling area may be seen in patients with significant hernia (9). In our case, there were no urinary complaints other than swelling since the hernia was minimal.

Early diagnosis is important to prevent complications and possible bladder injuries during inguinal surgery. When radiological imaging is performed, possible complications such as perforation, renal failure, and strangulation can be avoided (10,11). No complications were detected in our case.

Radiological imaging techniques have various advantages and deficiencies over each other. Although ultrasonography is the primary radiological diagnosis method used in inguinal hernias, the gold standard in diagnosis is cystography. This imaging method creates disadvantages such as the inability to show additional pathologies and false negativity in narrow-necked hernias (12). Computed tomography imaging can be performed for additional pathologies accompanying herniation, but this technique is disadvantageous due to its high cost and radiation exposure. The advantages of magnetic resonance imaging include its ability to display the relationship of hernia with peritoneal structures, accompanying additional

pathologies, inflammatory changes, and absence of radiation exposure (11,13). In our patient, ultrasonography was performed first, and then computed tomography was performed to make the diagnosis.

The main treatment of inguinal bladder hernias is surgical repair after the reduction or resection of the herniated bladder (9).

CONCLUSION

In conclusion, possible bladder hernia should be kept in mind, especially in patients with inguinal hernia with lower urinary tract symptoms. We believe that the familiarity of radiologists with the images will enable them to make the possible diagnosis and contribute to preventing possible complications.

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